



| | |
|-----------------|--------|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Area
SILVER SEAS YACHTS [BRANDON]

Machine Id
KOHLER SGM32LJR9

Component
Genset

Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|-------------|----------|
| Sample Number | | Client Info | | VPA052331 | VPA034700 | --- |
| Sample Date | | Client Info | | 15 Apr 2024 | 22 Jun 2020 | --- |
| Machine Age | hrs | Client Info | | 167 | 100 | --- |
| Oil Age | hrs | Client Info | | 0 | 0 | --- |
| Filter Age | hrs | Client Info | | 0 | 0 | --- |
| Oil Changed | | Client Info | | N/A | Not Changd | --- |
| Filter Changed | | Client Info | | N/A | Not Changd | --- |
| Sample Status | | | | NORMAL | NORMAL | --- |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|------|------|-----|
| Iron | ppm | ASTM D5185m | >50 | 1 | 4 | --- |
| Chromium | ppm | ASTM D5185m | >4 | 0 | <1 | --- |
| Nickel | ppm | ASTM D5185m | >2 | 0 | <1 | --- |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | --- |
| Silver | ppm | ASTM D5185m | >5 | 0 | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >12 | <1 | <1 | --- |
| Lead | ppm | ASTM D5185m | >17 | 0 | 0 | --- |
| Copper | ppm | ASTM D5185m | >70 | <1 | 1 | --- |
| Tin | ppm | ASTM D5185m | >15 | <1 | 0 | --- |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | --- |
| White Metal | scalar | *Visual | NONE | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | --- |

CONTAMINATION

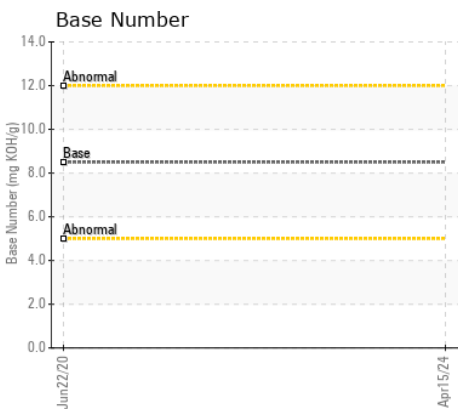
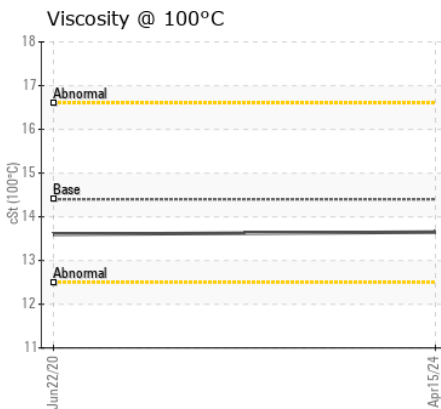
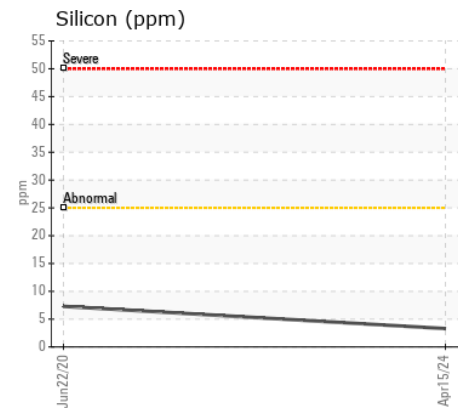
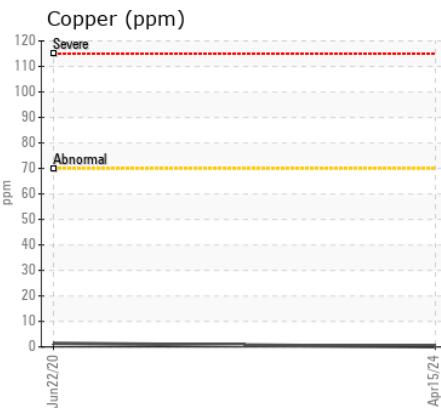
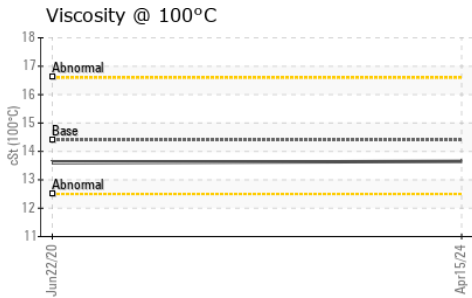
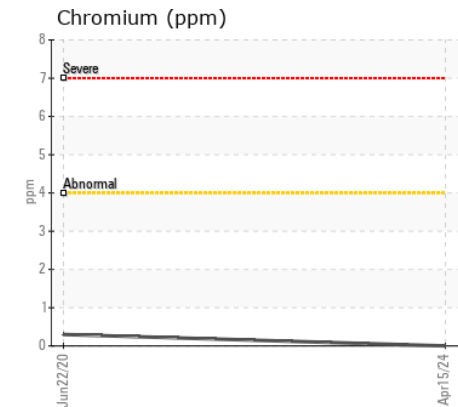
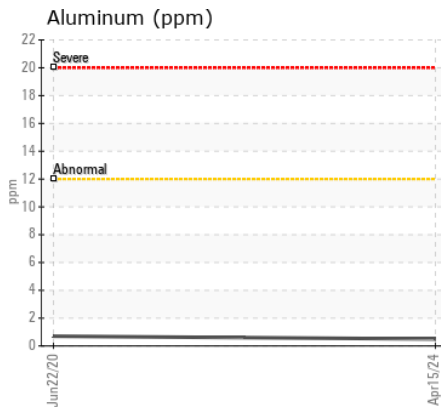
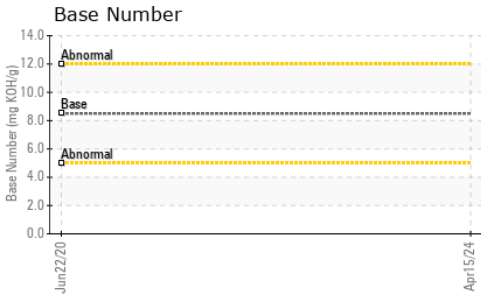
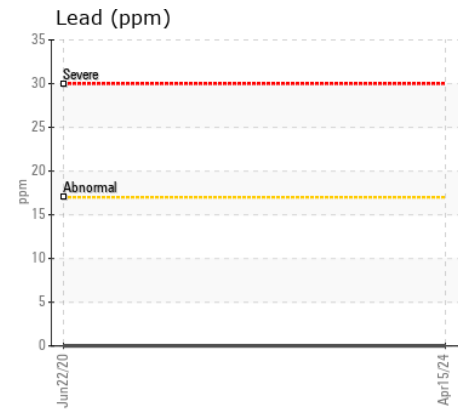
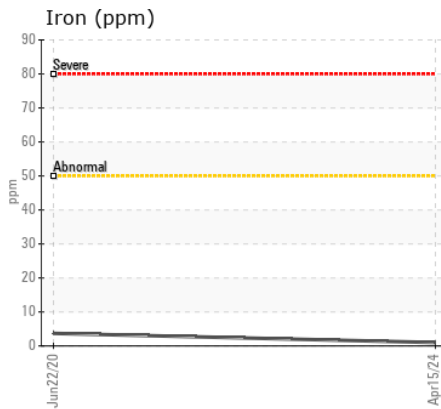
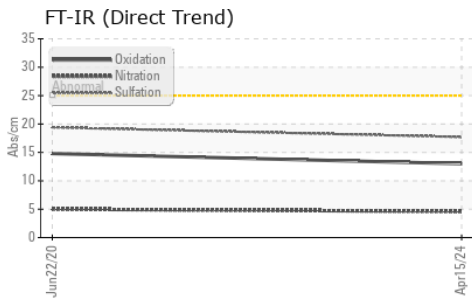
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|-------|-------|-----|
| Silicon | ppm | ASTM D5185m | >25 | 3 | 7 | --- |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 2 | --- |
| Fuel | | WC Method | >4.0 | <1.0 | <1.0 | --- |
| Water | | WC Method | >0.1 | NEG | NEG | --- |
| Glycol | | WC Method | | NEG | NEG | --- |
| Soot % | % | *ASTM D7844 | | 0 | 0.1 | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 4.6 | 5 | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 17.7 | 19.4 | --- |
| Silt | scalar | *Visual | NONE | NONE | NONE | --- |
| Debris | scalar | *Visual | NONE | NONE | NONE | --- |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | --- |
| Appearance | scalar | *Visual | NORML | NORML | NORML | --- |
| Odor | scalar | *Visual | NORML | NORML | NORML | --- |
| Emulsified Water | scalar | *Visual | >0.1 | NEG | NEG | --- |

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|-------|------|-----|
| Sodium | ppm | ASTM D5185m | >216 | 0 | 7 | --- |
| Boron | ppm | ASTM D5185m | 250 | 14 | 10 | --- |
| Barium | ppm | ASTM D5185m | 10 | 0 | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | 100 | 49 | 62 | --- |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | --- |
| Magnesium | ppm | ASTM D5185m | 450 | 973 | 1085 | --- |
| Calcium | ppm | ASTM D5185m | 3000 | 1110 | 1094 | --- |
| Phosphorus | ppm | ASTM D5185m | 1150 | 942 | 1104 | --- |
| Zinc | ppm | ASTM D5185m | 1350 | 1233 | 1218 | --- |
| Sulfur | ppm | ASTM D5185m | 4250 | 4123 | 3004 | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 13.0 | 14.8 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 9.8 | --- | --- |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 13.65 | 13.6 | --- |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VPA052331 **Received** : 22 Apr 2024
Lab Number : 06156581 **Tested** : 22 Apr 2024
Unique Number : 10992004 **Diagnosed** : 22 Apr 2024 - Doug Bogart
Test Package : MOB 1 (Additional Tests: TBN)

Helmuts Marine Service
 619 Canal Street
 SAN RAFAEL, CA
 US 94901-3545

Contact: NADINE URUIOLI
 SERVICE@HELMUTSMARINE.COM

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

T: x:
 F: x: